Patent claims

1. Method for checking the transmission quality between a first gateway (GW1) and a second gateway (GW2) in a packet network (IPNET) which is effectively connected to at least one packet-based switching system (P-Vst), in which

- in the course of a first method

-- a connection is set up between the resource server (R-Serv) and the first gateway (GW1) by the packet-based switching system (P-Vst),

-- test information (pinf) is transmitted over the connection to the first gateway (GW1) from the resource server (R-Serv),

-- the test information (pinf) is looped back in the first gateway (GW1),

-- the looped-back test information (pinf) is transmitted back to the resource server, and

-- the looped-back test information (pinf) is evaluated with regard to criteria relating to the transmission criteria.

- a second method corresponding to the first method is executed for the second gateway (GW2) and the resource server (RServ),

- in the course of a third method

-- test information (pinf) is transmitted from a director function arranged in the resource server (R-Serv) via the first gateway (GW1) and the second gateway (GW2) to a responder function arranged in the resource server (R-Serv), in that

--- a connection is set up between the resource server (R-Serv) and the gateway (GW1) by the packet-based switching system (P-Vst),

--- a connection is set up between the first gateway (GW1) and the second gateway (GW2) by a packet-based switching system (P-Vst),

--- a connection is set up between the second gateway (GW2) and the resource server (R-Serv) by a packet-based switching system (P-Vst), and

--- test information (pinf) about the connections set up is initially transmitted from the resource server (R-Serv) to the first gateway (GW1), from the first gateway (GW1) to the second gateway (GW2) and from the second gateway (GW2) to the resource server (R-Serv), and

-- the test information (pinf) received is evaluated with regard to criteria relating to the transmission criteria, and

- the results of the three methods are combined for checking the transmission quality on the transmission section between the first gateway (GW1) and the second gateway (GW2).

2. Method for checking the transmission quality between a first gateway (GW1) and a second gateway (GW2) in a packet network (IPNET) which is effectively connected to at least one packet-based switching system (P-Vst), in which

- in the course of a first method

-- a connection is set up between a resource server (R-Serv) and the first gateway (GW1) by the packet-based switching system (P-Vst),

-- test information (pinf) is transmitted over the connection to the first gateway (GW1) from the resource server (R-Serv),

-- the test information (pinf) is looped back in the first gateway (GW1),

-- the looped-back test information (pinf) is transmitted back to the resource server (R-Serv), and

- the looped-back test information (pinf) is evaluated with regard to criteria relating to the transmission criteria.

- in the course of a second method

-- test information (pinf) is transmitted from a director function arranged in a resource server (R-Serv) via the first gateway (GW1) and the second gateway (GW1) to a responder function arranged in the resource server (R-Serv), in that

--- a connection is set up between the resource server (R-Serv) and the gateway (GW1) by the packet-based switching system (P-Vst),

--- a connection is set up between the first gateway (GW1) and the second gateway (GW2) by a packet-based switching system (P-Vst),

--- test information (pinf) is initially transmitted over the connections set up from the resource server (R-Serv) to the first gateway (GW1), from the first gateway (GW1) to the second gateway (GW2),

--- the test information (pinf) is looped back in the second gateway (GW2), and

--- the looped-back test information (pinf) is initially transmitted over the connections set up from the second gateway (GW2) to the first gateway (GW1) and then from the gateway (GW2) to the resource server (R-Serv), and

-- the test information (pinf) received is evaluated with regard to criteria relating to the transmission criteria, and

- the results of the two methods are combined for checking the transmission quality on the transmission section between the first gateway (GW2) and the second gateway (GW2).

3. Method in accordance with Claim 1 or 2,
characterized in that
direction function and/or responder function are available on director or responder modules arranged in the resource server (R-Serv).

4. Method according to one of the previous claims
characterized in that
- the test information (pinf) is evaluated in the resource server (R-Serv) or in a packet-based switch (PVst).

5. Method according to one of the previous claims
characterized in that
- a test report is created.

6. Method according to one of the previous claims
characterized in that
- a bidirectional connection is established between the resource server (R-Serv) and one of the gateways (GW1, GW2).

7. Method in accordance with one of the Claims 1 to 6,
characterized in that
the voice quality is evaluated in accordance with the ITU-T Standards P.861 or P.862.

8. Resource server in a packet network (IPNET) which can be controlled by a packet-based switch (P-Vst) with a director and a responder module means to execute transmission quality checks according to one of the methods 1 to 7.

9. Resource server in accordance with Claim 8,
with interfaces of the resource server (R-Serv) to test desks.

10. Resource server in accordance with Claim 8 or 9,
with means for evaluating results of transmission quality checks according to one of Claims 1 to 7.

11. Resource server in accordance with one of the Claims 8 to 10,
characterized in that
the voice quality is evaluated by the resource server in accordance with the ITU-T Standards P.861 or P.862.

12. Gateway in a packet network (IPNET) with a loopback functionality for executing one of the Claims 1 to 7.

13. Gateway in accordance with Claim 12,
which is embodied as a media gateway, an access gateway or a residential gateway.

14. Gateway in accordance with Claim 12 or 13,
characterized in that
- the loopback functionality is implemented with the aid of separately addressable virtual ports used exclusively for test purposes.

15. Gateway in accordance with one of the Claims 12 to 14,
in which the loopback functionality is implemented with the aid of a TDM (time division multiplexer) loop.

16. System in a packet network (IPNET) for executing one of the methods 1 to 7,

- with at least one packet-based switch (PVst),
- with at least one resource server (R-Serv) in accordance with one of the Claims 8 to 11, and
- with at least one gateway in accordance with one of the Claims 12 to 15.